GENERAL INDEX

Classified entries will be found under Contributors and Reviewers. New names and names of new genera, species, and varieties are printed in **bold face** type; synonyms in *italic*.

A

Aase, Hannah C. 277
Abies balsamea, fertilization in 457
Abietineae, megasporophylls of 282
Abrams, LeRoy 115
Achlya, **Klebsiana** 486; new species of 483
Additive effects, determination of 228
Alaria, size of 479
Alaska, sphagnum bogs of 168
Albinism in maize 324
Algae, gases in floats of marine 77
Amorphophallus, tissue tension in 235; wind burn in 414
Anatomy of Negundo 169
Andrews, E. C., work of 167
Anemone, staminate flowers in 492
Angiosperms, origin of herbaceous 247; phylogeny of 87
Antheridium and archegonium, relation of 139
Anthocyan pigments 335
Appel, O., work of 336
Apple bark, oxidation in 55
Aquilegia **pallens** 375
Araucarians, abietinean theory 89; cordaitean theory 13; lycopod theory, 2; origin and relationships 1, 89
Araucarineae, megasporophylls of 297
Archaeopitys 87
Arisaema, morphology of 503
Armstrong, Margaret, "Western wild flowers" 497
Arthur, J. C., work of 246
Ascomycetes, phylogeny of 334
Astragalus, **amplexus** 378; Coltoni 377; **naturitensis** 377
Atkinson, G. F., work of 334
Aulospermum Betheli 380

B

Bacterial diseases 333
Bailey, I. W. 66; work of 87, 247, 336
Bailey, L. H., "Plant breeding" 76
Bakke, A. L. 314
Ball, C. R. 391
Balls, W. L., work of 328
Barker, J. F., work of 328
Bars of Sanio in cycads 400
Bartlett, H. H. 425
Baudys, E., work of 419
Beach plants, distribution of 406
Bergen, J. Y. 491
Berry, E. W. 494
Bessey, C. E., biographical sketch 72
Blodgett, F. H. 383
Boodle, L. A., work of 248
Bovie, W. T. 144, 320
Box elder 169
Brenchley, Winifred M., "Inorganic plant poisons and stimulants" 158; work of 158
Brown, W., work of 504
Bryophyllum, regeneration in 249
Burlingame, L. L. 1, 89
Burt, E. A., work of 248

C

Caeoma nitens 81
Caldwell, J. S. 158
California, flora of 77
Calochortus flexuosus 374
Campbell, D. H., work of 86, 502
Canada, northern plains forests 424
Cecidology 79, 334
Cellulose, destruction by filamentous fungi 149
Chaenactis scaposa 382
Chamberlain, C. J. 326, 330, 332; work of 86
Cheeseman, T. F., "New Zealand flora" 495
Chimeras 323
Christy, M., work of 335
Chromosomes, and Mendelian inheritance 165; pairing in fertilization 461
Chrysler, M. A. 87, 247, 335
Chrysothamnus formosus 381
Citrus fruits 496
Clawson, A. B., work of 248
Cleomella **montrosae** 375
Coal, composition and qualities 83
Cockerell, T. D. A., work of 80
Cocoa 77
Coco-nut 76
Coit, J. E., "Citrus fruits" 496

Collison, R. C., work of 328
Colorado, new and noteworthy plants from 374
Conifers, cuticles of 215; megasporophylls of 277
Connell, A. B., work of 424
Contributors: Aase, Hannah C. 277; Abrams, LeR. 115; Bailey, I. W. 66; Bakke, A. L. 314; Ball, C. R. 391; Bartlett, H. H. 425; Bergen, J. Y. 491; Berry, E. W. 494; Blodgett, F. H. 383; Bovie, W. T. 144, 320; Burlingame, L. L. 1, 89; Caldwell, J. S. 158; Chamberlain, C. J. 326, 330, 332; Chrysler, M. A. 87, 247, 335; Cook, M. T. 79, 334, 346, 412; Coulter, J. M. 72, 76, 77, 86, 87, 88, 166, 167, 168, 248, 327, 333, 335, 336, 424, 495, 497, 501, 503, 504; Crandall, W. C. 473; Crocker, W. 74, 325, 328, 329, 330, 421, 423, 502; DeVries, H. 337; Elmore, C. J. 492; Emerson, R. A. 84, 500; Frye, T. C. 473; Fuller, G. D. 82, 168, 237, 331, 335, 424; Gates, F. C. 236, 414; Harvey, E. M. 27, 193; Hasselbring, H. 81, 85, 240, 415; Holden, Ruth 215; Hutchinson, A. H. 134, 457; Land, W. J. G. 497, 502, 504; Loeb, J. 249; Osterhout, W. J. V. 228; Payson, E. 374; Petry, L. C. 499; Pieters, A. J. 483; Plowman, A. B. 169; Ramaley, F. 154; Rigg, G. B. 77, 473; Roberts, Edith A. 406; Rose, D. H. 55; Rose, R. C. 27; Scales, F. M. 149; Sharp, L. W. 163; Shepard, H. B. 66; Shull, G. H. 165, 323, 324; Sifton, H. B. 400; Sinnott, E. W. 332; Smiley, F. J. 155; Thiessen, R. 83; Wilson, G. W. 346, 413; Yasui, Kono 362
Cook, M. T. 79, 334, 346, 412
Copeland, E. B., "The coco-nut" 76; work of 168
Correlation, in regeneration 249
Cotton, field physiology of 328
Coulter, J. M. 72, 76, 77, 86, 87, 88, 166, 167, 168, 248, 327, 333, 335, 336, 424, 495, 497, 501, 503, 504; work of 497, 498
Crandall, W. C. 473
Cretaceous plants 494
Crocker, W. 74, 325, 328, 329, 330, 421, 423, 502
Cruchet, P., work of 243
Cupressineae, megasporophylls of 289
Cuticles of some Indian conifers 215
Cycads, bars of Sanio in 400; fossil 88

D

Dahlgren, K. V. O., work of 326
Daikuhara, G., work of 328
Dawson, W. J., work of 417
Death camas 248
DeVries, H. 337
DeVries, M. S., work of 330
Diospyros Kaki, morphology of 362
Diseases, bacterial 333
Dixon, H. H., "Transpiration and ascent of sap" 74
Dwarfing effect of trees 491
Dwarf plants, origin of 500

E

East, E. M., work of 84, 86
Echinostrobus expansus, cuticle of 221
Elmore, C. J. 492
Embryology, experimental 163; of Rosaceae 332
Embryo sac, new type of 326; of Myosurus 424
Emerson, R. A. 84, 500; work of 324
Endophyllum Sempervivi 81
Endosperm, phylogenetic significance of 330
Endothia, influence of ether on 412; parasitica, influence of tannin content of host 346
Ephedra helvetica, morphology of 504
Eremolithia 77
Eriodictyon 120; augustifolium 127; californicum 123; crassifolium 128; crassifolium **denudatum** 129; crassifolium nigrescens 129; **lanatum** 126; sessilifolium 132; taxonomy and distribution of 115; tomentosum 130; Traskiae 131; trichocalyx 125
Eriogonum microthecum 375
Erysiphaceae, new genus of 336
Ethylene, effect on metabolism 193
Euphorbia Fendleri **dissimilis** 379
Everest, A. E., work of 335

F

Fallis, Annie L., work of 167
Felt, E. P., work of 80, 334
Ferns, of oriental tropics 168; of South Africa 497
Fertilization, pairing of chromosomes in 461
Fischer, Ed., work of 243
Flower, evolution of 86
Fraser, W. P., work of 242, 246
Fromme, F. D., work of 81, 244
Frye, T. C. 473
Fuller, G. D. 82, 168, 237, 331, 335, 424
Fullway, D. T., work of 80
Fungi, cellulose destroying power of 149

G

Gases, in floats of marine algae 77
Gastrodia elata 163
Gates, F. C. 236, 414
Geotropism of grass node 329
Germination 421
Germ plasm, modification of 333
Gnetum, morphology of 335
Graft hybrids 323
Grassland, mountain 154
Grass node, geotropism of 329
Groom, P., work of 503
Growth and light 423
Growth forms 332

H

Haak, work of 419
Hall, C. A., "Plant life" 497
Harris, J. E., work of 328
Harvey, E. M. 27, 193
Hasse-Bessel, G., work of 416
Hasselbring, H. 81, 85, 240, 415
Heald, F. D., work of 80
Hedgcock, G. C., work of 242
Helianthella **scabra** 382
Helminthostachys, anatomy of 499
Holden, Ruth 215; work of 88, 504
Holton, F. S., work of 328
Horne, A. S., work of 86
Hutchinson, A. H. 134, 457

I

Illuminating gas, effects on root system 27
Inhibition, in regeneration 249
Irmscher, E., work of 82
Isoetes, stem anatomy of 333
Ito, S., work of 244, 336

J

Jackson, H. S., work of 246
Jacob, G., work of 243
Jacobsson-Stiasny, Emma, work of 330, 332
Jeffrey, E. C., work of 83, 87
Jepson, W. L., "A flora of California" 77
Johnson, D. S., work of 239
Jurassic wood 504

K

Keene, M. L., work of 85
Kelps, size of 473
Kentucky, fossil plants from 87
Kern, F. D., work of 246
Klebahn, H., work of 245, 415
Kraemer, H., "Pharmacognosy" 496
Kunkel, L. O., work of 81
Kurssanow, L., work of 82
Kusano, S., work of 163
Kuyper, J., work of 501

L

Land, W. J. G. 497, 502, 504; work of 498
Lang, W. H., work of 334, 499
Leguminosae, development and distribution of 167
Lemna frond, morphology of 383
Light and growth 423
Loeb, J. 249
Long, W. H., work of 241, 242
Lucas, A. H. S., work of 77
Lupinus **crassus** 376
Lutman, B. F., work of 79

M

Macdougal, D. T., work of 333
Macrocystis, size of 474
Maize, albinism in 324
Marsh, C. D., work of 248
Marsh, H., work of 248
Mass mutation in Oenothera pratincola 425
Megasporophylls of conifers 277
Meinecke, E. P., work of 242
Melampsora Lini 81
Mendelian inheritance and chromosomes 165
Metabolism, effect of ethylene 169
Meyer, J., work of 323
Miles, F. C., work of 324
Monocotyledony, origin of 497
Moreau, Mrs. F., work of 82
Mosses, resistance to drought and cold 82
Mountain grassland 154
Mucors, cytology of 85
Müller, G., work of 421
Mutant, a Mendelian 337
Mutation 425
Myosurus, embryo sac of 424

N

National Academy, Proceedings of 86
Navarrettia Breweri 380
Negundo, comparative anatomy of 169
Nereocystis, growth of 167; size of 476
New Zealand, flora of 495
Nicotiana, self-sterility in 84
Nilsson-Ehle, H., work of 324
Nummularia discreta 55

O

Oenothera, gigas nanella 337; pratincola, mass mutation in 425
Olive, E. W., work of 416
Onobrychis sativa 377
Oreocarya, **gypsophila** 380; tenuis 380
Origin of monocotyledony 497
Orogenia linearifolia **lata** 379
Osterhout, W. J. V. 228
Oxidation in apple bark 55

P

Palissya, cuticle of 219
Pallavicinia, of Java 502
Parasitism, physiology of 504
Payson, E. 374
Pearson, H. H. W., work of 502
Pedicularis centranthera 381
Pelagophycus, size of 475
Pellia epipylla, gametophyte of 134
Pentstemon **cyanocaulis** 380
Petry, L. C. 499
Pharmacognosy 496
Photo-perceptions and temperature 330
Phytopathology, in the tropics 327; scientific 336
Pickett, F. L., work of 503
Pieters, A. J. 483
Pines, some abnormal 248
Plant breeding 76
Plant life 497
Plowman, A. B. 169
Plumbagella, new type of embryo sac 326
Podocarpineae, megasporophylls of 301
Podozamites lanceolatus, cuticle of 223
Poisons and stimulants 158
Pollen, physiology of 325
Polygonaceae, seeds of 88
Polygonum amphibium 375
Pool, R. J., work of 331
Prairie grove, invasion of 331
Psoralea **aromatica** 379

R

Rain-forest, a montane 237
Ramaley, F. 154
Rayner, M. C., work of 166
Regeneration in Bryophyllum 249
Reviews: Armstrong's "Western wild flowers" 497; Bailey's "Plant breeding" 76; Brenchley's "Inorganic plant poisons and stimulants" 158; Cheeseman's "New Zealand flora" 495; Coit's "Citrus fruits" 496; Copeland's "The coco-nut" 76; Dixon's "Transpiration and ascent of sap" 74; Hall's "Plant life" 497; Jepson's "A flora of California" 77; Kraemer's "Pharmacognosy" 496; Shreve's "A montane rain-forest" 237; Sim's "Ferns of South Africa" 497; Stopes's "Mesozoic plants" 494; Van Hall's "Cocoa" 77
Rhus utahensis 379
Rigg, G. B. 77, 473; work of 168
Riss, M. M., work of 329
Roberts, Edith A. 406
Root systems, effects of illuminating gas on 27
Rosaceae, embryology of 332
Rose, D. H. 55
Rose, R. C. 27
Rusts, biology of 415

S

Sahli, Gertrude, work of 420
Salix 375; amygdaloides 396; Bebbiana 398; chlorophylla 397; Fendleriana 397; fluviatilis 52, 397; Geyeriana 399; glaucops 397; lutea 397; monticola 397; Nelsonii 397; **pennata** 45; prinoides 398; Scouleriana 398; sessilifolis 49
Sanio's laws 66
Sap, ascent of 74
Saprolegnia, **Kaufmanniana** 488; monoica var. **vexans** 489; new species of 483
Scales, F. M. 149
Schumann rays as an agent for sterilization 144
Scott, D. H., work of 87
Sears, P. B., work of 80
Seeds of Polygonaceae 88
Sharp, L. W. 163; work of 417
Sheldon, Sarah M., work of 168
Shepard, H. B. 66
Shreve, F., "A montane rain-forest" 237; work of 239
Shull, G. H. 165, 323, 324
Sifton, H. B. 400
Sigrianski, A., work of 504
Sim, T. R., "Ferns of South Africa" 497
Sinnott, E. W. 332; work of 87, 247, 336
Smiley, F. J. 115
Smith, E. F., work of 333
Soil acidity 328
South Africa, ferns of 497
Spaulding, P., work of 243
Sphagnum bogs of Alaska 168
Stakman, E. C., work of 420
Stereopteris 87
Stewart, A., work of 79
Stipules, origin of 335
Stomata of sugar cane 501
Stout, A. R., work of 500

Sturtevant, A. H., work of 165
Sugar cane, growth of 501; stomata of 501
Symbiosis, obligate 168

T

Taxineae, megasporophylls of 305
Taxitis tenerrimus, cuticle of 222
Taxodineae, megasporophylls of 294
Taylor, N., work of 332
Tchernoyarow, M., work of 424
Temperature, and photo-perceptions 330; of plants 502
Thelephoraceae 248
Thiessen, R. 83
Thompson, W. P., work of 335
Tischler, G., work of 418
Tokugawa, Y., work of 325
Tracheids, coniferous 66
Tranzchel, W., work of 245
Treboux, O., work of 240, 246
Trelease, W., work of 86
Tropics, phytopathology in the 327
Tropism chamber 320
Troug, E. A., work of 328
Typhulocaeta 336

U

Uredineae, cultures of 240; cytology of 81

V

Van Hall, C. J. J., "Cocoa" 77
Vascular anatomy of megasporophylls of conifers 277
Ventral canal cell, fertilization of 458
Vogt, E., work of 423

W

Wells, B. W., work of 80
Westerdijk, Johanna, work of 327
Western wild flowers 497
Williams, Florence, work of 502
Willows, North American 45, 391
Wilson, G. W. 346, 413
Wilting in plants 314
Wind burn in Amorphophallus 414
Woodcock, E. F., work of 88
Worsdell, W. C., work of 248

Y

Yasui, Kono 362

Z

Zygadenus 248